

Preface

How can we define ecological economics? Is it a sub-field of economics, an interdisciplinary area, or a discipline in its own right? As the field has developed, it has shown aspects of all three categorizations. After exploring the expanding literature of ecological economics, the researchers for this volume have leaned toward the third proposition: a new field of study is being defined which is independent of the standard economic paradigm.

This is an ambitious claim, and the reader will have to make his or her own judgement as to how well it is supported here. After surveying hundreds of books and articles, however, the editors of this volume feel that a strong case exists for the emergence of ecological economics as a new field of research and study. Not that the discipline lacks historical roots--but it is only within the past decade that it has emerged from marginality to play a significant role in shaping serious thought about global economic and environmental issues.

The field of "environmental economics," as distinct from ecological economics, already exists in mainstream economics. However, that mainstream approach is felt by many theorists and practitioners to be inadequate to deal with the contemporary crises of environment/human interactions. The "environmental" area within the existing discipline of economics is too constrained by its requirement of market valuation to respond adequately to the complexities of issues such as global warming, species loss, ecosystem degradation, inter-generational equity, and non-human values. Ecological economics, by contrast, starts from a recognition of the biophysical realities underlying the operations of the economic system. Economic issues are then viewed in this context, rather than attempting a monetary price valuation to all aspects of the environment.

The issues which ecological economics brings to the fore are especially important in a long-term perspective and on a planetary scale. Much of human economic activity has been directed toward stretching ecological limits, notably through high-input agriculture and the use of fossil fuels. In some senses, this enterprise has been phenomenally successful, but over the long term and in a broader perspective we find that natural systems react adversely to the ever-increasing pressure to produce for human use. Effects which are subtle at first gradually become overwhelming. In agriculture, such effects include cumulative soil erosion and nutrient loss, water overdraft and pollution, and the emergence of resistant pest species. The inexorable buildup of carbon dioxide in the atmosphere has no immediate effect on economic activity, but eventually it may threaten the climatic stability of the entire planet.

Such issues are by now well known but often fail to register on the monetary scale of standard economic analysis. Attempts to reflect these ecological developments in economic cost terms inevitably fail to capture the full scope of the problems. For some time, however, writers in the ecological economics tradition have warned of just such problems, basing their analysis on such concepts as energy flows and ecological system stability. The steady drumbeat of news on growing global ecological problems signals a need to take the field of ecological economics much more seriously than it has been treated hitherto by most economists.

The reason why this paradigm shift is particularly important now has to do with the issue of scale, a concept much emphasized by ecological economists. In standard economic analysis, there are no inherent barriers to the scale of the macroeconomy. This vision of unlimited growth is in fundamental conflict with the ecological perspective, which sees scale and carrying capacity limits as central to the analysis of any biophysical process. It is precisely this issue which undergirds almost all of our current environmental problems. The human race has doubled in numbers in less than forty years, and may well double again in the next forty. Economic activity has at least quadrupled over the same period, and according to World Bank forecasts will nearly quadruple again by 2030.¹ Whether we are thinking of the loss of open space in the United States, water limits in India, over-harvesting of fisheries worldwide, or the enormous potential coal use of China in the coming decades, environmental problems are driven by the pressures of growth. Scale issues can be ignored up to a point, as they are in mainstream macroeconomics, but we are now well past that point.

If we accept the case for a more careful consideration of ecological economics, what do we find? This is the question which motivated our research for this volume. The organization of the volume is intended to present the full scope of the field, starting with its historical roots and the definition of the field. We then move to general and specific theoretical concepts, then to energy and resource flow analysis and national income accounting techniques. Applications to North-South/international relations and to social, ethical, and institutional issues round out the volume. Several hundred articles and books were surveyed in the search for those which would best represent the field. Our selection principle has favored those articles which we believe best express a key concept or argument. Rather than reprinting full articles, we have chosen to summarize articles or book chapters. In this way, the reader will get the benefit of the essential content of an article - which would not emerge from a shorter abstract - but a far larger number of authors can be included than would be possible if the full text was reproduced. In every case, the authors have reviewed the summaries to check that their work is adequately and clearly presented. These summaries, however, are in no way meant to substitute for the original articles. We strongly recommend that readers seek out the full texts in their areas of interest.

The overview essays at the head of each part attempt to synthesize the diverse selections to give a sense of the nature of the field. Despite the varied views and theoretical perspectives represented, we feel that a certain *Gestalt* emerges, a sense of a viable field of analysis with its own parameters and techniques. There is certainly some overlap with standard economics as well as with ecological, political, historical, and ethical analysis. But we feel, and have some confidence that the reader will also feel, this emergence of a new and essential discipline.

Such a far-reaching enterprise has necessarily involved the contributions of many people. Rajaram Krishnan, an economist specializing in agricultural and labor issues in development, has coordinated the selection and preparation of summaries, as well as providing a summary essay for Part VI. Jonathan Harris, who has published work on the economics of agriculture, trade, and global institutions, has written most of the overview essays that introduce the parts of the book. Neva R. Goodwin, the originator of the project and author of *Social Economics: An Alternative Theory*, has contributed the Part VII overview. The research team for this volume included Andrew Morrison, Daniel Von Moltke, Daniele Guidi and Kevin Gallagher. For tireless editing work we are indebted to Carolyn Logan. Associates of the Global Development

and Environment Institute including Jeffrey Zabel and Elliott Morss contributed to the shaping of volume in its early stages. The final responsibility for the selection and content rests with the three editors. We hope that we have done justice to the field of ecological economics, and perhaps helped to define this emerging discipline.

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Note

¹World Bank, *1992 World Development Report: Development and the Environment* (Oxford University Press, 1992), 9.